



# People with Chronic Conditions

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Provided by the Wisconsin Information for State Health Policy Program, a program funded by the Division of Health and the Robert Wood Johnson Foundation.

Comments and suggestions on improving the profiles may be addressed to:

Center for Health Statistics  
Division of Health  
Wisconsin Department of Health and Family Services  
P.O. Box 309, Room 172  
Madison, WI 53701-0309  
Phone: (608) 267-7955  
Fax: (608) 261-6380  
[tennibp@dhfs.state.wi.us](mailto:tennibp@dhfs.state.wi.us)

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## FOREWORD

*Community Health Profiles: People with Chronic Conditions* is the third in a series of three subject-specific profiles. These profiles were developed to provide information that will contribute to the appropriate use of long-term care services for people with chronic conditions. The first profile in the series is about pregnant women and infants; the second is about children.

The profiles evolved from a series of discussions, begun in 1992, between decision-makers in Wisconsin who met to identify key health policy issues for which information was needed. The Wisconsin Information for State Health Policy Program (InfoSHPP), which seeks to improve the availability and usefulness of health information for policy-makers in the state, was an outgrowth of those discussions.

During the early phases of InfoSHPP, local communities were recognized as the primary arenas for implementing an effective long-term care system. In response, profiles to address the need for local information were developed for 89 distinct geographical areas of the state:

- each Wisconsin county;
- each of Wisconsin's five largest cities (Kenosha, Madison, Milwaukee, Racine, and Green Bay);
- a selected group of zip codes in the city of Milwaukee;
- the five Division of Health regions; and for the state as a whole.

This profile includes information about chronic conditions (defined by selected diagnoses) which program and policy decision-makers identified as high priority. These diagnoses and the associated International Classification of Disease--Ninth Revision disease codes are listed in the Technical Notes.

*Community Health Profiles: People with Chronic Conditions* makes a special contribution to local health information by providing:

- a focus on the specific topic of chronic health conditions;
- information in a user-friendly format;
- information from a variety of data sources, including both population-based and program participant information;
- a narrative highlighting related *statewide* information for each table and graph;
- graphs for comparable statewide, regional and local information (statewide and regional information is shown, even when numbers are too small to present for local areas);
- comparisons between actual and expected values, based on statewide rates, for selected health measures.

Many people contributed their time and ideas through a collaborative planning process to produce these profiles. Special acknowledgment goes to the chronic conditions work group formed in connection with the Information for State Health Policy Program; the Chronic Disease Section, Bureau of Public Health, and the Bureau of Health Care Financing, Division of Health; the Bureau on Aging and the Bureau of Long-Term Support, Division of Supportive Living; the Bureau of Management and Operations, Division of Children and Family Services; the Demographic Services Center, Department of Administration; and the Office of Health Care Information, Office of the Commissioner of Insurance.

The profiles were prepared in the Center for Health Statistics. Bernie Tennis was lead research analyst for the profiles; he had primary responsibility for the content, gathering and summarizing of the data. Angela Bethel performed technical production of the profiles, including creating the tables and graphics and importing the data. Patricia Nametz provided editing and review of the profiles. Patricia Guhleman, InfoSHPP Program Coordinator, provided consultation in all phases of production. Chris Miller proofread the final reports.

The following individuals provided data and expertise: Robert Adler for data from the U.S. Census; Eleanor Cautley and Fred Krantz for data from the Family Health Survey and Behavioral Risk Factor Survey; Laura Owens for data from the hospital inpatient files; Yiwu Zhang for Home Health Survey data; Victor Jesudason for Nursing Home Survey data; Richard Betz for Community Options Program (COP), Medicaid (MA) Waiver, and Community-Based Residential Facility (CBRF) data; Laura Stevenson-Vine for Cancer Reporting System data; Ed Seiser for CBRF data; and Dan Spencer for Medicaid data.

Your comments and suggestions on improving the profiles are appreciated. Please direct them to Bernie Tennis (608-267-9090 or [tennib@dhfs.state.wi.us](mailto:tennib@dhfs.state.wi.us)) or Patricia Guhleman (608-267-5221 or [guhlepa@dhfs.state.wi.us](mailto:guhlepa@dhfs.state.wi.us)) at the Center for Health Statistics. On the Internet, go to: **<http://www.dhfs.state.wi.us/>** for instructions about accessing the profiles.

Requests for additional profiles should be addressed to:

Center for Health Statistics  
Division of Health  
Wisconsin Department of Health and Family Services  
P.O. Box 309, Room 172  
Madison WI 53701-0309

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## DEMOGRAPHICS

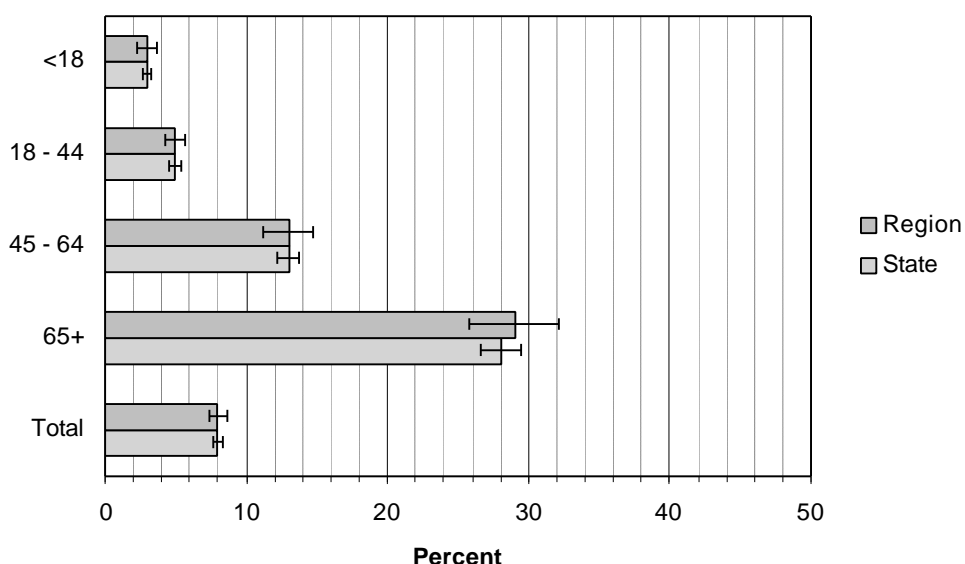
**Table 1. Population by Age, 1990 and Selected Years**

Age	1990	% Female	1994	2000	2010
<18	217,388	49%	229,220	228,587	216,142
18-34	254,008	49	247,940	237,621	249,987
35-44	131,313	49	145,270	145,878	127,218
45-54	83,067	50	95,150	130,509	141,279
55-64	68,991	52	68,880	80,461	123,286
65-74	59,219	55	62,610	59,678	69,667
75-84	35,318	61	38,690	40,785	41,742
85+	12,535	72	13,470	16,147	19,781
<b>Total</b>	<b>861,839</b>	<b>51%</b>	<b>901,230</b>	<b>939,666</b>	<b>989,102</b>

Source: 1990 data are from the U.S. Census of Population and Housing, Modified Age-Race-Sex (MARS) file. 1994 estimates are from the Wisconsin Center for Health Statistics. Projections for 2000 and 2010 are from the Demographic Services Center, Wisconsin Department of Administration.

*Statewide, the number of people age 55 and over is expected to increase by one-third during the 20-year interval from 1990 to 2010.*

## HEALTH STATUS

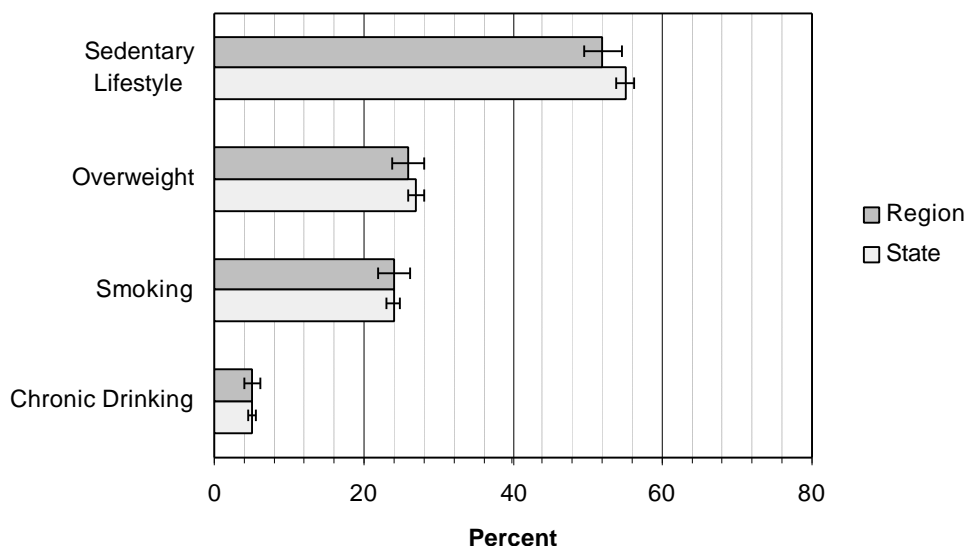
**Figure 1. Percent of Persons with Fair or Poor Health**

Source: Family Health Survey, 1990-1994 combined data, Center for Health Statistics.

Note: Range indicated on each bar represents a 95% confidence interval (see Technical Notes).

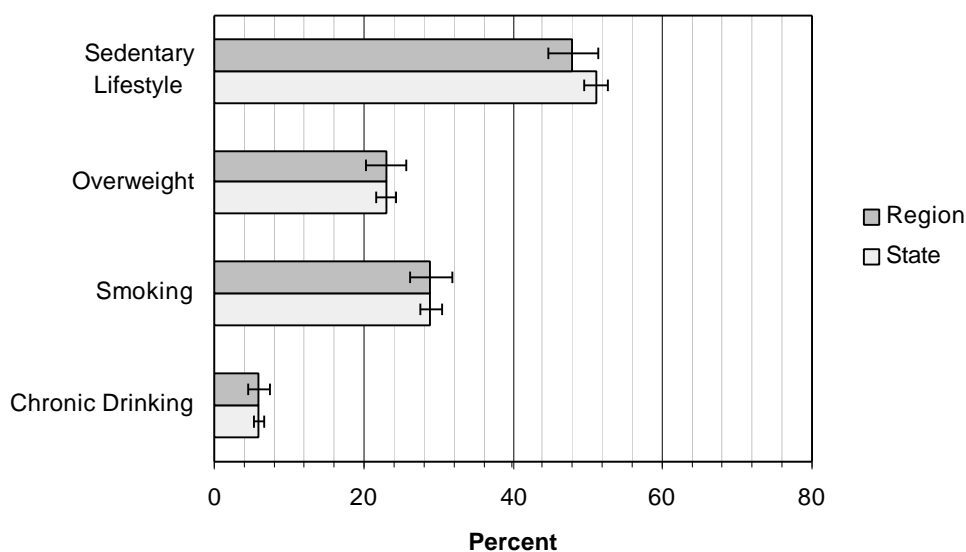
*Older people are more likely than younger people to perceive their health as fair or poor. Statewide, about 28 percent of older people (age 65 and over) perceive their health as either fair or poor, compared with about 13 percent of people ages 45-64.*

**Figure 2a. Percent of Persons with Selected Behavioral Risks, Ages 18 and Older**



*About half of Wisconsin adults engage in little or no leisure-time physical activity (sedentary lifestyle), making this the most prevalent behavioral risk to health.*

**Figure 2b. Percent of Persons with Selected Behavioral Risks, Ages 18-44**

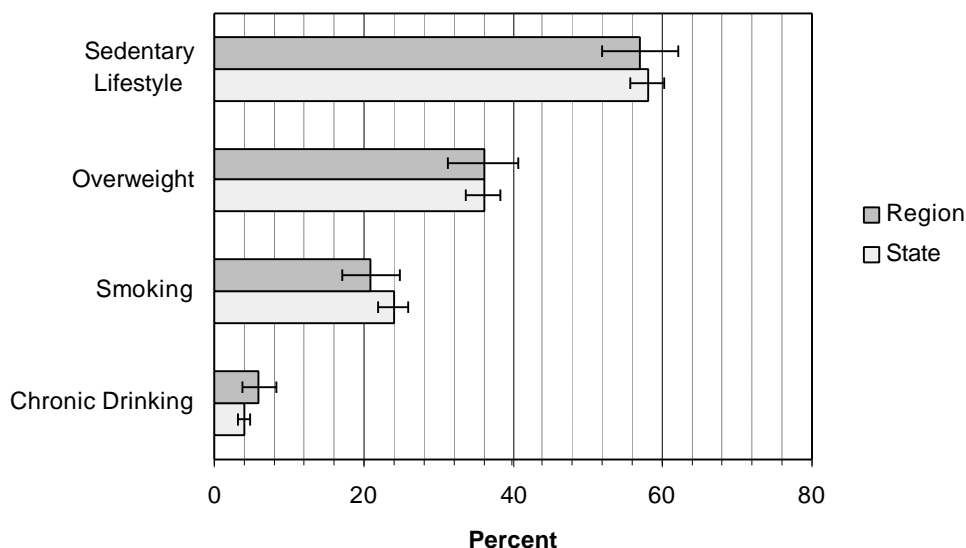


*For people ages 18-44, sedentary lifestyle ranks first in statewide prevalence of behavioral risks to health; smoking cigarettes constitutes the second most common behavioral risk.*

Source: Wisconsin Behavioral Risk Factor Survey, 1990-1994 combined data for all indicators except "sedentary lifestyle" (1989-1992, 1994), Center for Health Statistics.

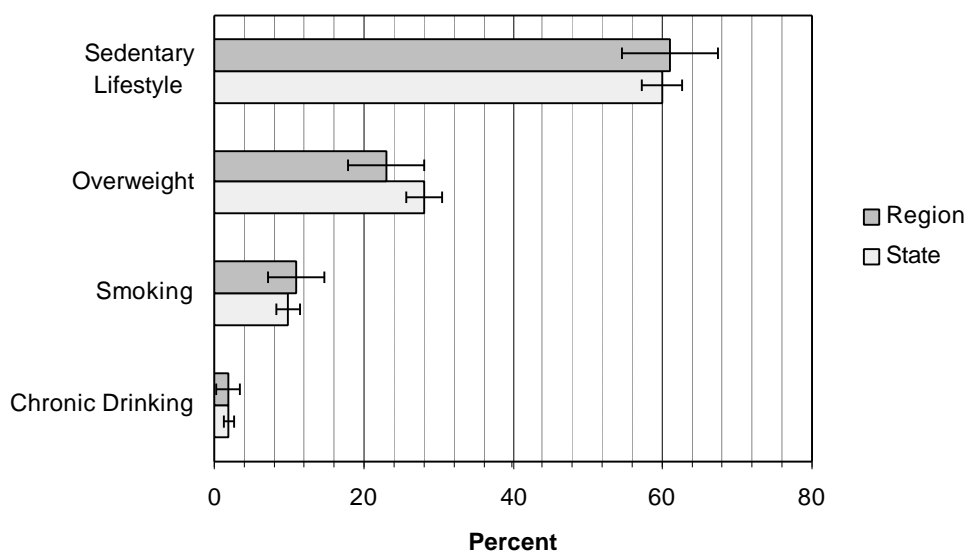
Note: See Technical Notes for definitions of behavioral risks. Range indicated on each bar represents a 95% confidence interval (see Technical Notes).

**Figure 2c. Percent of Persons with Selected Behavioral Risks, Ages 45-64**



*Among middle-aged people (ages 45-64), being overweight represents the second leading behavioral risk (about 36 percent statewide), and smoking ranks third (24 percent).*

**Figure 2d. Percent of Persons with Selected Behavioral Risks, Ages 65 and Older**



*Statewide, sedentary lifestyle and being overweight represent the most prevalent behavioral risks to people age 65 and over (about 60 percent and 28 percent, respectively).*

Source: Wisconsin Behavioral Risk Factor Survey, 1990-1994 combined data for all indicators except "sedentary lifestyle" (1989-1992, 1994), Center for Health Statistics.

Note: See Technical Notes for definitions of behavioral risks. Range indicated on each bar represents a 95% confidence interval (see Technical Notes).

**Table 2a. Percent of Persons Reported to Have Selected Chronic Conditions, All Ages**

Chronic Condition	Region Percent	State Percent
Cancer	3	3
Diabetes	3	3
Hypertension	11	11
Coronary Heart Disease	4	4
Heart Attack	2	2
Stroke	1	1
Asthma	9	8
Emphysema or Chronic Bronchitis	3	3
Arthritis	11	11
<b>Any of the above</b>	<b>29</b>	<b>30</b>

*In Wisconsin, about 30 percent of all people report at least one chronic health condition, with arthritis and hypertension (high blood pressure) being the most frequently named conditions.*

**Table 2b. Percent of Persons Reported to Have Selected Chronic Conditions, by Age Groups**

Chronic Condition	<65		65+	
	Region %	State %	Region %	State %
Cancer	2	2	14	13
Diabetes	2	2	14	11
Hypertension	7	8	41	41
Coronary Heart Disease	2	2	20	21
Heart Attack	1	1	9	10
Stroke	0	0	6	6
Asthma	9	8	9	8
Emphysema or Chronic Bronchitis	2	2	9	7
Arthritis	7	7	47	45
<b>Any of the above</b>	<b>23</b>	<b>24</b>	<b>79</b>	<b>78</b>

*Statewide, about one-fourth of all people under age 65 report at least one chronic health condition, compared with more than three-fourths of all people age 65 and over.*

Source: Family Health Survey, 1990-1994 combined data, Center for Health Statistics.

Note: Percent is based on persons who have ever been told by a doctor they have the listed condition.



**Table 3. Actual and Expected New Cancer Cases by Site**

Primary Site	Annual Average 1989-1993	1994		Significant Difference
		Actual	Expected	
<b>Females</b>				
Breast	574	480	587	**
Colorectal	266	197	246	**
Lung, Trachea & Bronchus	181	178	206	*
Cervical	198	144	166	*
Other Sites	766	716	785	**
<b>All Sites</b>	<b>1,985</b>	<b>1,715</b>	<b>1,990</b>	<b>**</b>
<b>Males</b>				
Colorectal	267	244	269	
Lung, Trachea & Bronchus	309	279	313	*
Prostate	630	474	612	**
Other Sites	816	744	837	**
<b>All Sites</b>	<b>2,022</b>	<b>1,741</b>	<b>2,031</b>	<b>**</b>
<b>Total</b>				
Colorectal	533	441	515	**
Lung, Trachea & Bronchus	490	457	519	**
Other Sites	2,984	2,558	2,987	**
<b>All Sites</b>	<b>4,007</b>	<b>3,456</b>	<b>4,021</b>	<b>**</b>

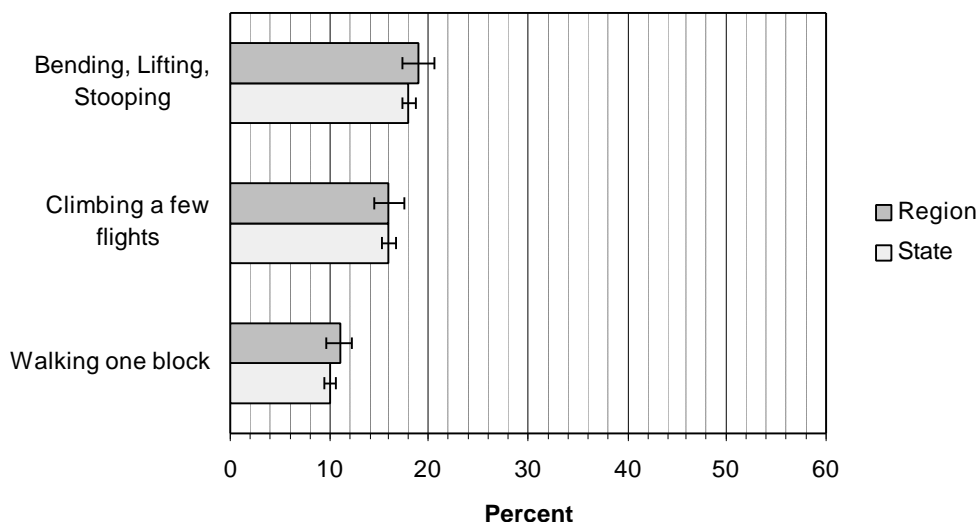
Statewide, breast cancer accounted for about one-fourth of newly reported cancers among Wisconsin women in 1994. Prostate cancer represented about 30 percent of reported cancer incidence among men.

Lung cancer and colorectal cancer each accounted for 13 percent of total cancer incidence in 1994.

Source: Wisconsin Cancer Reporting System, Center for Health Statistics.

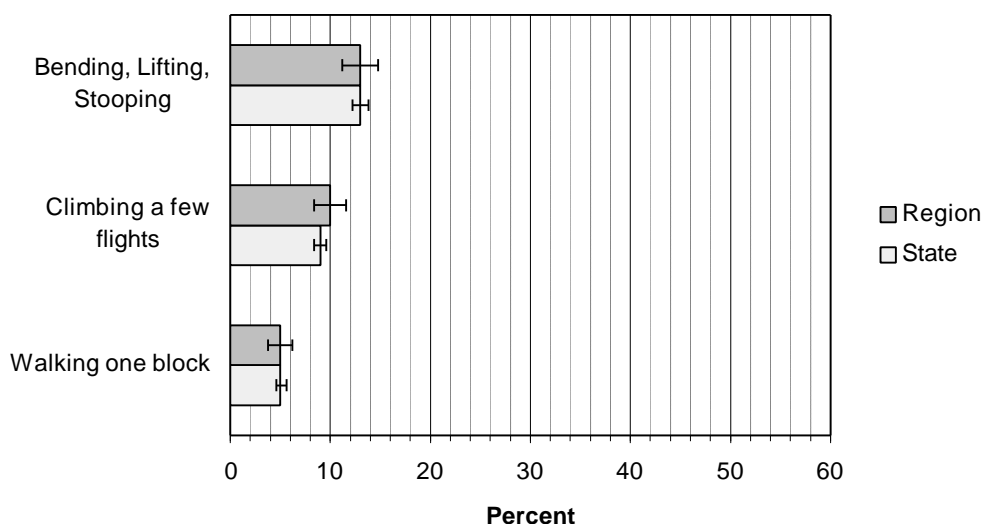
Note: The "expected" number of new cases for 1994 was calculated based on statewide cancer incidence rates by age and sex (see Technical Notes). The last column indicates where there was a statistically significant difference between the expected number of new cases in 1994 and the actual number. Two asterisks indicate significance at the .01 level and a single asterisk indicates significance at the .05 level.

**Figure 3a. Percent of Persons with Reported Limitations in Physical Activity Due to a Health Condition, Age 45 and Older**



*Among all people age 45 and over in Wisconsin, a health condition limits physical bending, lifting or stooping for about 18 percent; climbing two flights of stairs for about 16 percent; and walking one block for about 10 percent.*

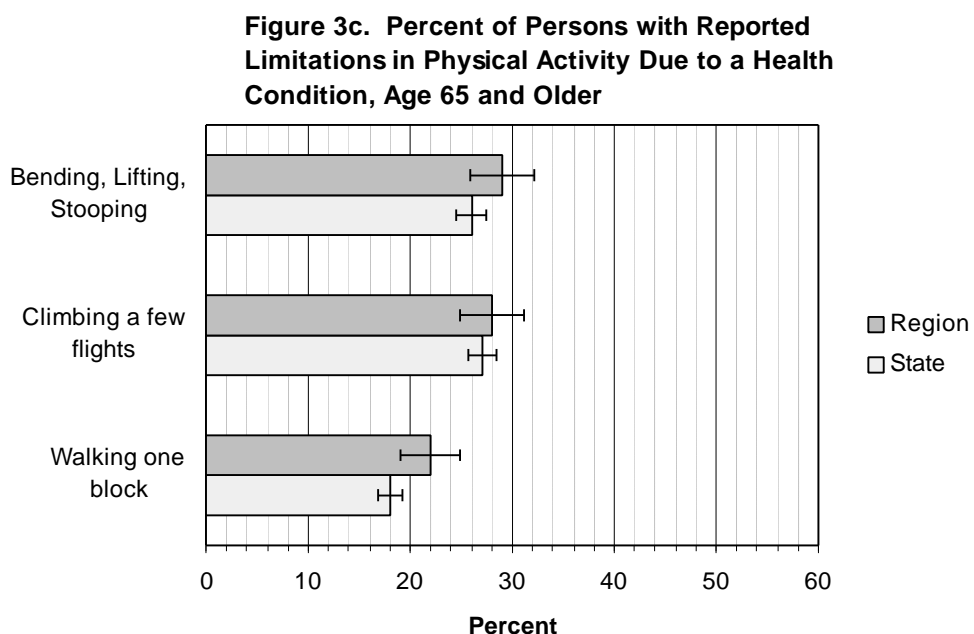
**Figure 3b. Percent of Persons with Reported Limitations in Physical Activity Due to a Health Condition, Ages 45-64**



*Among people ages 45-64, about 13 percent statewide indicate a limitation in bending, lifting or stooping due to a health condition.*

Source: Family Health Survey, 1990-1994 combined data, Center for Health Statistics.

Note: Percent is the proportion of adults whose health limits them in performing the listed activity. Range indicated on each bar represents a 95% confidence interval (see Technical Notes).



*Statewide, more than one-fourth of people age 65 and over face physical limitations in climbing stairs (about 27 percent) or bending, lifting, or stooping (about 26 percent).*

Source: Family Health Survey, 1990-1994 combined data, Center for Health Statistics.

Note: Percent is the proportion of adults whose health limits them in performing the listed activity. Range indicated on each bar represents a 95% confidence interval (see Technical Notes).

## USE OF SERVICES

**Table 4. Number of Home Health Recipients with Chronic Conditions, 1994**

Age	Develop. or Phys. Disability	Mental Illness	CNS Disorder	Other Chronic Condition
<55	121	22	64	415
55-64	24	16	36	415
65-74	19	36	28	1,187
75+	25	122	54	2,323
<b>Total</b>	<b>189</b>	<b>196</b>	<b>182</b>	<b>4,340</b>

Source: Wisconsin Annual Survey of Home Health Agencies, Center for Health Statistics.

Note: This table provides unduplicated counts for 1994 of home health agency patients with chronic conditions; that is, patients whose primary diagnosis was a developmental or physical disability; a mental illness; a central nervous system (CNS) disorder, such as multiple sclerosis; or some other chronic condition. See Technical Notes for more detail about these categories. Counts of home health agency patients in various diagnostic categories are by *location of the agency*.

*A chronic condition represented the primary diagnosis for about 29,000 clients of Wisconsin home health agencies in 1994.*

**Table 5. Number of Residents of Skilled Nursing Facilities (SNFs) on December 31, 1994**

Age	Develop. Disability	Mental Illness	Physical Disability	All Others
<65	26	96	12	323
65-74	13	169	8	512
75-84	17	608	17	1,633
85+	4	830	9	2,741
<b>Total</b>	<b>60</b>	<b>1,703</b>	<b>46</b>	<b>5,209</b>

Source: Wisconsin Annual Survey of Nursing Homes, Center for Health Statistics.

Note: SNFs are nursing homes licensed to provide medical care needed to restore residents to their rehabilitation potential. This table reflects an unduplicated count of all SNF residents; the count is by *location of the facility*. All SNF residents (regardless of diagnosis) are included in this table. See Technical Notes for detail about the diagnostic categories.

*In 1994, about half of all residents of Wisconsin skilled nursing facilities (SNFs) were age 85 or older.*

**Table 6. Number of Persons Enrolled in the Community Options Program (COP) and Medicaid Waiver Programs in 1994**

Age	Frail Elderly	Develop. Disability	Mental Illness	Physical Disability	Other
<18	0	106	14	2	2
18-44	0	538	210	74	9
45-54	0	156	131	56	4
55-64	0	82	145	41	11
65-74	487	0	0	0	0
75-84	581	0	0	0	0
85+	416	0	0	0	0
<b>Total</b>	<b>1,484</b>	<b>882</b>	<b>500</b>	<b>173</b>	<b>26</b>

Source: Wisconsin Human Services Reporting System.

Note: This table provides unduplicated counts of all persons enrolled in the COP and Medicaid waiver programs (CIP2, COP-W, CIP1A, CIP1B, CSLA), which are state-supervised and county-administered programs that provide community-based services to nursing-home-eligible persons. The count in this table reflects *region of residence*. See Technical Notes for more detail about the diagnostic categories.

*Statewide, about 18,000 people were enrolled in the Community Options Program or Medicaid waiver programs in 1994; about half the enrollees were under age 65.*

**Table 7. Number of Publicly-Funded Residents of Community-Based Residential Facilities (CBRFs) in 1994**

Age	Develop. Disability	Mental Illness	Physical Disability	AODA	Other
18-44	237	183	12	378	104
45-64	140	88	21	96	24
65-74	32	33	4	14	48
75-84	3	8	0	1	111
85+	4	1	1	0	101
<b>Total</b>	<b>416</b>	<b>313</b>	<b>38</b>	<b>489</b>	<b>388</b>

Source: Wisconsin Human Services Reporting System.

Note: A CBRF is a home or facility where three or more adults live and receive supportive services in daily living, care, treatment, or protective services beyond room and board; CBRF services may not include nursing care on a permanent basis. This table provides unduplicated counts of persons whose residence in a CBRF in 1994 was publicly funded. (No counts of private-pay CBRF residents are available.) The count is by *resident's region of origin*. Fifty-two residents statewide were reported to be under 18 years of age, and were not included in this table. See Technical Notes for more detail about the resident categories.

*Statewide, mental illness constituted the most prevalent primary diagnosis among residents with public funding in community-based residential facilities in 1994.*

**Table 8. Number of Residents of Facilities for the Developmentally Disabled (FDDs) on December 31, Selected Years**

	1990	1992	1994
<b>Total</b>	<b>657</b>	<b>593</b>	<b>538</b>

Source: Wisconsin Annual Survey of Nursing Homes, Center for Health Statistics.

Note: FDDs are nursing homes licensed to provide active treatment and services to residents who are developmentally disabled, primarily due to mental retardation or cerebral palsy. This table reflects an unduplicated count of all FDD residents each year on December 31; the count is by *resident's region of origin*.

*Statewide, there were about 3,400 residents in facilities for the developmentally disabled in 1994, nearly 500 fewer than in 1990.*

**Table 9. Number of Hospitalizations for Selected Chronic Conditions, by Age, 1994**

Chronic Conditions	<18	18-44	45-64	65-74	75+
AIDS/HIV	4	21	7	0	1
Cancer					
Breast	0	63	140	95	97
Colorectal	0	14	112	120	212
Lung, Trachea, & Bronchus	0	14	93	107	88
Cervical	0	18	14	2	1
Prostate	0	0	107	152	88
Other Cancers	64	701	1,052	651	652
Diabetes	94	247	269	208	208
Mental Illness					
Affective Disorders	295	1,022	310	123	116
Schizophrenias/Psychoses	13	476	132	33	13
Anxiety/Char Dis Inc Deprsn	86	269	72	22	33
Dementias	1	4	11	56	200
Alcohol and Other Drug Abuse	150	974	197	37	7
Other Mental Illness	73	128	15	0	0
Paralysis & Cerebral Palsy	6	9	3	4	3
Hypertension	0	22	35	33	48
Congestive Heart Failure	9	23	307	601	1,354
Coronary Heart Disease	0	280	1,860	1,605	1,517
Stroke	4	94	443	672	1,220
Asthma	310	307	136	94	78
Other Chronic Lung Disease	12	48	247	418	432
Liver Disease/Cirrhosis	1	53	72	36	27
Other Chronic Condition	241	1,594	1,570	1,102	1,151
<b>Total Hospitalizations for Chronic Conditions</b>	<b>1,363</b>	<b>6,381</b>	<b>7,204</b>	<b>6,171</b>	<b>7,546</b>
<b>Total Hospitalizations</b>	<b>18,458</b>	<b>32,140</b>	<b>17,934</b>	<b>14,047</b>	<b>19,091</b>

Source: Office of Health Care Information, hospital inpatient database.

Note: Data are based on the principal diagnosis only. Conditions shown tend to be associated with long-term involvement with the health care system. See Technical Notes for the ICD-9-CM codes of these conditions.

Corrections to Mental Illness categories made January, 1998

Statewide, a chronic condition constituted the primary diagnosis for about 30 percent of the approximately 602,000 total hospitalizations in 1994.

**Table 10. Actual and Expected Hospitalizations for Selected Chronic Conditions**

Chronic Condition	Annual Average 1989-1993	1994		Significant Difference
		Actual	Expected	
AIDS/HIV	8	33	19	**
Cancer				
Breast	480	395	446	**
Colorectal	480	458	449	
Lung, Trachea, & Bronchus	330	302	336	*
Cervical	33	35	44	
Prostate	436	347	356	
Other Cancers	3,244	3,120	3,192	
Diabetes	965	1,026	1,118	**
Mental Illness				
Affective Disorders	1,730	1,866	2,370	**
Schizophrenias/Psychoses	662	667	934	**
Anxiety/Char Dis Inc Depsn	499	482	645	**
Dementias	210	272	314	**
Alcohol and Other Drug Abuse	1,410	1,365	1,922	**
Other Mental Illness	295	216	272	**
Paralysis & Cerebral Palsy	44	25	35	*
Hypertension	131	138	134	
Congestive Heart Failure	2,200	2,294	2,584	**
Coronary Heart Disease	5,004	5,262	5,231	
Stroke	2,235	2,433	2,444	
Asthma	927	925	1,053	**
Other Chronic Lung Disease	777	1,157	1,099	*
Liver Disease/Cirrhosis	162	189	186	
Other Chronic Conditions	6,006	5,658	5,628	
<b>Total Hospitalizations for Chronic Conditions</b>	<b>28,268</b>	<b>28,665</b>	<b>30,811</b>	<b>**</b>

Source: Office of Health Care Information, hospital inpatient database.

Note: Data are based on the principal diagnosis only. Conditions shown tend to be associated with long-term involvement with the health care system. See Technical Notes for the ICD-9-CM codes of these conditions. The "expected" number of hospitalizations was calculated based on statewide hospitalization rates by age and sex (see Technical Notes). The last column indicates where there was a statistically significant difference between the expected number of hospitalizations and the actual number. Two asterisks indicate significance at the .01 level and a single asterisk indicates significance at the .05 level.

**Corrections to Mental Illness categories made January, 1998**

*Coronary heart disease, congestive heart failure, stroke, cancer and chronic lung disease accounted for more than half of all 1994 Wisconsin hospitalizations for which a chronic condition constituted the primary diagnosis.*

**Table 11. Hospitalizations for a Chronic Condition with a Secondary Diagnosis of Diabetes, by Principal Diagnosis, 1994**

Principal Diagnosis	<55	55-74	75+	Total
Mental Illness	83	75	41	199
Coronary Heart Disease	197	660	310	1,167
Stroke	27	255	219	501
Chronic Lung Disease	35	99	62	196
Other Chronic Condition	301	907	606	1,814
<b>Total</b>	<b>643</b>	<b>1,996</b>	<b>1,238</b>	<b>3,877</b>

Source: Office of Health Care Information, hospital inpatient database.

Note: This table presents only those hospitalizations with a secondary diagnosis of diabetes for which the principal diagnosis was one of the selected chronic conditions examined. Diabetes is also associated with hospitalizations for complications not shown here, such as limb amputations and kidney failure.

*About 14 percent of all hospitalizations for a chronic condition included a secondary diagnosis of diabetes.*

**Table 12. Medicaid-Reimbursed Health Services for People with Chronic Conditions, 1994**

Services	Number of Recipients	Payment (in thousands)
Hospitalizations - Inpatient	6,916	\$33,482
Hospitalizations- Outpatient	14,860	6,985
Nursing Home	6,498	135,125
Physician	28,053	12,547
Pharmacy	28,486	25,561
Home Care	1,833	12,471
Mental Health	7,678	4,716
Therapies	2,294	2,455
Other	27,384	18,272
<b>Total</b>	<b>31,049</b>	<b>\$251,615</b>

Source: Medicaid Claims, Bureau of Health Care Financing.

Note: The counts in this table do not include any services provided by an HMO. "Therapies" include physical therapy, occupational therapy, speech and hearing therapy, group therapy, and comprehensive outpatient therapy provided by rehabilitation agencies. "Other" includes emergency room, durable medical equipment, lab and X-ray, dental, transportation, HealthCheck, and all other Medicaid services. See Technical Notes for list of chronic conditions and their ICD-9-CM codes.

*Statewide, Medicaid paid about \$1.6 billion for services to people with chronic health conditions in 1994.*



## MORTALITY

**Table 13. Mortality Attributed to Selected Chronic Conditions, 1994**

Chronic Condition	<45	45-64	65-74	75+
HIV/AIDS	18	7	0	0
Cancer				
Breast	11	45	33	59
Colorectal	7	42	51	94
Lung, Trachea, & Bronchus	10	109	128	151
Cervical	4	4	3	0
Prostate	0	5	29	90
Diabetes	5	30	52	98
Congestive Heart Failure	2	14	21	176
Coronary Heart Disease	19	214	343	1,200
Stroke	7	37	78	475
Chronic Lung Disease	5	43	103	232
Liver Disease/Cirrhosis	6	24	11	11
<b>Total (Chronic Conditions)</b>	<b>94</b>	<b>574</b>	<b>852</b>	<b>2,586</b>
<b>Total (All Deaths)</b>	<b>558</b>	<b>1,017</b>	<b>1,400</b>	<b>4,402</b>

Source: Resident death certificates, Center for Health Statistics.

Note: This table reflects the underlying cause of death. Several conditions may be cited on the death certificate; one is selected using criteria established by the National Center for Health Statistics as the “underlying cause of death,” that is, “the disease or injury which initiated the chain of events leading directly or indirectly to death.” See Technical Notes for ICD-9-CM codes.

**Table 14. Actual and Expected Mortality for Selected Chronic Conditions**

Chronic Condition	Annual Average 1989-1993	1994		
		Actual	Expected	Significant Difference
HIV/AIDS	29	25	41	**
Cancer				
Breast	146	148	148	
Colorectal	200	194	188	
Lung, Trachea, & Bronchus	400	398	416	
Cervical	12	11	11	
Prostate	134	124	135	
Diabetes	182	185	181	
Congestive Heart Failure	159	213	184	*
Coronary Heart Disease	1,816	1,776	1,760	
Stroke	580	597	578	
Chronic Lung Disease	329	383	350	*
Liver Disease/Cirrhosis	52	52	55	
<b>Total</b>	<b>4,039</b>	<b>4,106</b>	<b>4,047</b>	

Source: Resident death certificates, Center for Health Statistics.

Note: This table reflects the underlying cause of death (see note, Table 13). The “expected” number of deaths was based on statewide mortality rates by age and sex (see Technical Notes). The last column indicates whether there was a statistically significant difference between the expected number of deaths and the actual number. Two asterisks indicate significance at the .01 level and a single asterisk indicates significance at the .05 level.

*In 1994, chronic conditions accounted for about half (24,390) of all Wisconsin deaths.*

*Statewide, coronary heart disease represented the leading cause of death due to a chronic health condition in 1994.*

## Technical Notes

The regions used in this report reflect the uniform Department of Health and Family Services boundaries which became effective July 1996.

A blank column in a table and the absence of a bar in a figure indicate either that data are not available for a given geographic level, or that a stable estimate could not be calculated.

**Chronic Conditions.** As defined in *Chronic Disease Epidemiology and Control* (American Public Health Association, 1993), chronic conditions are those that have a prolonged course, that do not resolve spontaneously, and for which a complete cure is seldom achieved. These conditions are generally characterized by uncertain etiology, multiple risk factors, a long latency period, a prolonged course of illness, non-contagious origin, and functional impairment or disability. The conditions analyzed in this profile include the following diagnoses and their ICD-9-CM codes:

- HIV (042-044)
- Cancer (140-239)
  - Breast (174-175)
  - Cervical (180)
  - Colorectal (153-154)
  - Lung, Trachea, & Bronchus (162)
  - Prostate (185)
  - Leukemia (204-208)
  - Other (140-152, 155-161, 163-173, 176-179, 181-184, 186-203, 209-239)
- Diabetes (250)
- Mental Disorders
  - Dementias (290-290.43, 291.1, 291.2, 292.82, 292.83, 294.0, 294.1)
  - Alcohol and Other Drug Abuse (291.0, 291.3, 292.0, 292.11, 292.84, 303.90, 304-304.90, 305-305.90)
  - Schizophrenias / Psychoses (293.81, 293.82, 295.10-295.35, 295.60-295.95, 297.1-297.3)
  - Affective Disorders (293.83, 296.2-296.7)
  - Anxiety / Character and Miscellaneous Disorders (294.8, 294.9, 300.00-300.13, 301.00-301.82, 300.15-300.9, 301.84-301.9, 302.71-302.79, 306.51-307.0, 307.20, 307.21, 307.23-307.47, 307.80, 310.10, 780.52-780.54)
  - Other Chronic Mental Disorders (300.14, 301.83, 307.1, 307.50-307.51, 299.00, 299.80, 307.22, 307.23, 307.52-307.7, 312.00-312.23, 313.82, 314.00, 314.01, 315.9)
- Mental Retardation (317-319)
- Alzheimer's Disease (331.0)
- Parkinson's Disease (332)
- Multiple Sclerosis and Other Diseases of the Central Nervous System (320-330, 331.1-331.9, 333-341)
- Paralysis & Cerebral Palsy (342-344)
- Glaucoma (365)
- Cataracts (366)
- Congestive Heart Failure (428, 402.01, 402.11, 402.91)
- Hypertension (401, 402.00, 402.10, 402.90)
- Coronary Heart Disease (410-414, 429.2)
- Stroke (430-438)
- Liver Disease / Cirrhosis (571)
- Emphysema and Chronic Lung Disease (490-496, 500-504, 506, 507.8, 515-517), includes Asthma (493)
- Arthropathies, Dorsopathies, & Rheumatism (710-729), includes Arthritis (710-719)
- Osteopathies (730-739), includes Osteoporosis (733)

**Family Health Survey.** The Wisconsin Family Health Survey (FHS) is a statewide telephone survey using a stratified random sample of households in Wisconsin. One person in each household, who is most knowledgeable about the health of household members, answers the questions on behalf of all household members. Interviews are conducted each month of the year; a total of about 2,400 households are surveyed annually. Completed interviews are weighted to represent nonrespondents and to correct for disproportionate sampling rates across regions. The completed sample is considered to be representative of the Wisconsin household population, although it does not include any households without telephones and minority populations are somewhat underrepresented.

**Confidence intervals.** Figures using FHS data contain error bars at the end of each graph bar, indicating a 95% confidence interval. That is, there is a 95% chance that the actual percentage falls within the range indicated by the error bar. Tables 2a and 2b have a column labeled (+/-) that contains the 95% confidence interval associated with each county value.

**Sample size.** For all of the FHS analyses in this report, data from five years (1990-1994) were combined. This was done to provide more stable estimates at the county and regional levels for the age groups being considered. The confidence associated with estimates varies with the size of the sample used to produce the estimates. For example, estimates based on a sample of 200 might vary by as much as (plus or minus) 7 percent. In these profiles, FHS estimates are not available below the county level, except for the city of Milwaukee.

**Behavioral Risk Factor Survey.** The Wisconsin Behavioral Risk Factor Survey (BRFS) is a statewide telephone survey using a stratified random sample of households in Wisconsin. One adult is randomly selected from each household to be interviewed. Interviews are conducted each month of the year; a total of 1,500-2,100 households are surveyed annually. Completed interviews are weighted to represent nonrespondents and to correct for disproportionate sampling rates across regions. The completed sample is considered to be representative of the Wisconsin household population, although it does not include any households without telephones and minority populations are somewhat underrepresented.

**Confidence intervals.** See above discussion of confidence intervals.

**Definition of behavioral risks.** Figures 2a-2d show four health risks: (1) Sedentary lifestyle is defined by no leisure-time physical activity, or activities done for less than 20 minutes or fewer than 3 times per week. (2) Overweight is determined by a body mass index (weight in kilograms divided by height in meters squared) of 27.3 or greater for women and 27.8 or greater for men. (3) Smokers are those who smoke currently and have smoked more than 100 cigarettes in their lifetime. (4) Chronic drinkers are those who report consuming 60 or more drinks in the previous month. The Centers for Disease Control and Prevention defined these behavioral risk standards.

**Sample size.** Figures 2a-2d use combined data from five years of the survey to provide more stable estimates at the county and regional levels for the age groups being considered. Data from 1989-1992 and 1994 were used for sedentary lifestyle; 1990-1994 data were used for the other risks. The reader should be aware that the confidence associated with estimates varies with the size of the sample used to produce the estimates. For example, estimates based on a sample of 200 might vary by as much as (plus or minus) 7 percent. In these profiles, BRFs estimates are not available below the county level.

**Cancer Reporting System.** Table 3 is based on reported cancer cases from Wisconsin hospitals and clinics, out-of-state cancer registries, and Minnesota hospitals near the state border. Data are for Wisconsin residents only.

All malignant neoplasms (except basal cell carcinoma and squamous cell carcinoma which arise in the skin) are reportable to the Wisconsin Cancer Reporting System per state statute (255.04). Only newly diagnosed cases of primary tumor sites for a particular calendar year are included in the incidence count for that year.

The colorectal cancer group includes the following sites: colon, rectum, rectosigmoid junction, anus and anal canal.

**Actual and Expected Values.** Tables 3, 10 and 14 present actual and expected values for cancer incidence, hospitalizations and mortality, and indicate whether the differences are statistically significant. In this profile, the statewide age- and sex-specific rates for each event (i.e., site-specific cancer incidence, cause-specific hospitalizations and cause-specific mortality) are used as the “standard” against which each community is compared. CHS calculated the sex-specific rates for each chronic condition in five-year age increments, and applied these rates to the community’s population to produce an expected number of cases in the community.

Actual values are affected by the age and sex distributions within the community. For example, because the risk of cancer increases with age, a higher than average number of cancer cases is usually found in communities whose proportion of elderly is greater than the state’s. If the community is similar to the state in terms of age and sex distribution, a higher-than-expected number of cancer cases is probably due to factors other than age and sex.

The statistical test of significance indicates the probability that the difference did not occur by chance. In any statistical test, sample size can strongly influence the results. In large communities, smaller numerical differences may be statistically significant, whereas in smaller communities, large numerical differences might not meet the statistical test of significance. For this reason, the tests of significance should not be used to compare communities. Each community should evaluate both its actual and its expected values in developing intervention priorities.

**Home Health Survey.** The Wisconsin Home Health Survey is an annual survey of all home health agencies providing services to Wisconsin residents. Table 4 presents the number of patients reported, based on principal diagnosis. Diagnosis categories include slightly different groupings, depending on which survey form the agency used.

<b>Category</b>	<b>Conditions and ICD-9-CM Diagnostic Codes</b>
Developmental or Physical Disability	Mental Retardation (317-319), Paralysis and Cerebral Palsy (342-344)
Mental Illness and AODA	Senile Dementia (290), Mental Illness (291-302, 306-316) and Alcohol and Other Drug Abuse (303-305)
Central Nervous System	CNS disorders (320-341) <b>or</b> Multiple Sclerosis only (340-341)
Other Medical Conditions	HIV/AIDS (042-044), Cancer (140-239), Diabetes (250), Stroke (436-438), Respiratory Diseases (460-519) Arthropathies, Dorsopathies, and Rheumatism (710-729) <b>or</b> Arthritis (710-719) Osteopathies (730-739) <b>or</b> Bone Degeneration (730-733)

**Nursing Home Survey.** The Wisconsin Annual Survey of Nursing Homes is a survey of all facilities licensed to provide nursing care in Wisconsin. Patient counts in Table 5 present skilled nursing facility residents on December 31, 1994 by principal diagnosis.

<b>Category</b>	<b>Conditions and ICD-9-CM Diagnostic Codes</b>
Developmental Disabilities	Mental Retardation (317-319), Cerebral Palsy (343) Epilepsy (345), Autism (299), other developmental disabilities
Mental Disorders	Alzheimer's (331,290.1), Mental Illness (291-302, 306-316), Alcohol and Other Drug Abuse (303-305)
Physical Disabilities	Paraplegia (344.1-344.9), Quadriplegia (344), Hemiplegia (342)
Medical Conditions	Cancer (140-239), Fractures (800-839), Cardiovascular (390-429, 439-459), Cerebrovascular (430-438), Diabetes (250), Respiratory Diseases (460-519), and other medical conditions

**Human Services Reporting System.** The Wisconsin Human Services Reporting System (HSRS) tracks state-funded social services administered by counties. Community Option Program and Medicaid waiver clients are classified according to program requirements, which include assigning all clients over age 65 to the “frail elderly” category, meaning a fragile state of health related to multiple age-associated conditions. All other clients and community-based residential facility (CBRF) residents are categorized by primary diagnosis as follows:

Category	Condition and HSRS Code
Developmental Disabilities	DD codes 19, 23, 25, 26, 27, 28
Mental Illness	Mentally Ill (02), Chronically Mentally Ill (03), and Severely Emotionally Disturbed (86)
Physical Disabilities	Blind/Visually Impaired (07), Hearing Impaired (08), Physically Disabled/Mobility Impaired (09), Alzheimer’s (18)*, Other Physical Disability (38)
Other	All other clients

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\* COP and Waiver Programs only; does not apply to CBRF residents.

**CBRF counts.** CBRF data are unavailable for Burnett, Eau Claire, Iowa, Milwaukee, Monroe, Portage, Washburn, and Washington counties, and residents are significantly undercounted in Barron, Brown, Forest, Kenosha, Langlade, Lincoln, Manitowoc, Marathon, Oneida, Polk, Rusk, and Vilas counties. Residents are also slightly undercounted in Buffalo, Door, Douglas, Green, Juneau, Kewaunee, Marinette, Menominee, Oconto, Ozaukee, Racine, Richland, Sauk, and St. Croix counties. Regional and statewide CBRF residents are also undercounted.

**Hospitalizations.** The hospital findings presented in this profile are based on data extracted from each hospital's Uniform Billing Record (UB-82 or UB-92) and submitted to the Office of Health Care Information. The categories are defined by the chronic disease diagnosis codes listed on the first page of these Technical Notes. Unless otherwise noted, hospitalizations by cause reflect the first-listed diagnosis at discharge. Table 9 is based on all hospitalizations for chronic conditions of Wisconsin residents discharged in 1994. Table 10 is based on all such discharges from 1989 to 1994.

No data were available for Wisconsin residents hospitalized in other states. Caution is therefore advised when analyzing hospitalizations for residents of border counties. The counties most affected by this care pattern are: Ashland, Barron, Bayfield, Buffalo, Burnett, Douglas, Dunn, Florence, Grant, Iron, Marinette, Pepin, Pierce, Polk, St. Croix, and Washburn. If more complete data were available, the number of hospitalizations for residents of these counties would probably be higher.

**Mortality.** The conditions listed in Tables 13 and 14 are defined by the chronic disease diagnosis codes listed on the first page of these Technical Notes.